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Application Control Number 10/710,379	Art Unit 2686	Applicant KATZ, DANIEL A.
Applicant's Reply to Mail dated 08312005	Examiner Suhail Khan	Page 1 / 2 26-Sep-05

To: Mr. Suhail Khan, examiner.

Following are my answers to the primary examiner's, Mr. Charles Appiah, letter, dated 31 August 2005.

1. Claim 10 was modified to avoid improper form of multiple dependent claim. A new set of claims is enclosed.
2. The term "IEEE 802.11" was removed from the claims.
3. (-)
4. Claims 28-31 were removed.
5. (-)
6. Although both Twitchell (US patent 6,934,540) and Katz (US patent application 10/710,379) deal with wireless communications, particularly Bluetooth, and disclose methods to use such networks to track assets, they clearly differ in their specific goals, addressed applications, problems they solve, technological strategy, advantages and shortcomings, so are absolutely different inventions. To illustrate that, consider for example that Katz's method enables tracking a child lost on the streets of New York (or a dog or a suitcase, etc) occasionally located in Miami, by a server computer in Los Angeles (or London), automatically, with no prior knowledge of where on the globe that lost child was, without deploying any further infrastructure or allocating persons or vehicles or any other dedicated efforts for that purpose, just based on millions of Bluetooth enabled mobile phones, carried freely, non indoctrinated, by people on the move, serving as a second tier of mobile antennas.
Twitchell's invention does not teach that. Furthermore, claims 1, 25-27 were modified to distinguish that. More specifically:

a. Twitchell's main goal is to facilitate asset tracking on a local area. His examples to track – 1) luggage at airport; 2) product in warehouse; 3) container on yard; 4) unit on factory's assembly line; indicate that.

Katz's main goal is to enable asset tracking on a wide area. His examples to track - [0067] stolen vehicle; [0068] weapons, vehicles and soldiers; [0070] (valuable) goods as they are transported from one place to another, dangerous chemicals, indicate that.

Obviously, Twitchell's invention may be applied on WANs as well, e.g. track a car's door, Bluetooth embedded, on an assembly line in Detroit and report it to headquarters in NY, over a WAN. However, when that car is ready and delivered to a customer, and unfortunately been stolen, Twitchell's method can't track it anymore, as it drives over the entire continent. Now, let's assume that a nationwide mobile operator, e.g. "Verizon", with more than 40 millions of subscribers, applies Katz's invention and installs proper software in all its Bluetooth enabled devices, say 20 million phones. According to one aspect of Katz's invention, 20 million (!) mobile antennas are searching now that stolen car, all over the country. Then, assume that the stolen car, taken far away, occasionally parks by a dinner in Nevada and fortunately one of the guests there carries one of these searching phones. When this mobile device in Nevada detects the Bluetooth device in the stolen car, it will be reported to the location center, say in LA, along with the geographical location of the mobile phone and proper measures will be taken to recuperate that stolen car.

Considering this scenario, it's quite clear that Twitchell's invention stops where Katz's invention starts, so it definitely does not teach Katz's invention.

b. Twitchell's main challenge is RF capacity of a local area network. He seeks (BACKGROUND OF INVENTION) "an improved low cost networking technology that has the benefits of the Bluetooth price and flexibility, but that overcomes the limited networking capacity of typical Bluetooth technology".

Katz's main challenge is communication range with low power devices over a wide area. He seeks [0023] "to provide a system and method for wirelessly determining the location of devices, by leveraging the location determining capability of conventional positioning systems, such as those used to locate cellular handsets, to determine the location of a different type of wireless devices, smaller and cheaper, by wirelessly linking between both types of devices.

c. Twitchell's invention relates to the logical layer of radios and networks. It's main strategy is to dynamically reconfigure the network topology.

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Katz's invention relates to the physical layer of radios and networks. It's main strategy is to relay/bridge between short range radios and long range radios/networks, or in other words relay/bridge between PANs/LANs and WANs.

Twitchell indicates [DETAILED DESCRIPTION + FIG 1] "A system in accordance with the present invention may include components in addition to those described above...a mobile locating Gateway **180** (also represented by "MLG" in the drawings)...Gateway **180**, which is installed in shipping vehicle **184**...". This vehicular gateway is not claimed and furthermore cannot teach Katz's method which uses mobile gateways, not necessarily vehicular but mainly carried by people that pass-by innocently and freely, and due to their number and pseudo-random movement, dynamically cover a huge area, on and off the road.

Katz's invention takes advantage of the cellular infrastructure, as well as hundreds of millions of cellular (Bluetooth enabled or similarly) devices carried by people all over the world: [0024] "It is another object of the present invention to provide a system and a method for wirelessly determining the location of devices, by utilizing existing and widespread active Telecom units ("communication devices"), such as mobile telephones, to be used as gateways or access points for a second tier of wireless devices, forming a large and dense mobile communication infrastructure for said wireless devices, over a wide area".

d. Twitchell discloses only one method to obtain the geographical location of an asset – GPS, however does not claim it.

Katz suggests [0004] network based methods such as: [0005] AOA, [0006] TOA, [0008] TDOA, [0009] TDOA-AOA, as well as [0010] handset-based methods such as [0011] GPS and claims both [c3] and [c8].

e. Twitchell's SUMMARY OF INVENTION – "a method of forming a wireless data communication network among transceivers, wherein each transceiver includes a designation with a first plurality of transceivers having a first common designation and a second plurality of transceivers having a second common designation different from the first common designation".

Katz's SUMMARY OF INVENTION – "a system for determining the geographical location of roaming objects (such as persons, animals, vehicles, goods, mailed/delivered items ammunition and weapons), that comprises: a) a communication network...wherein at least one of said communication devices is mobile...(e.g. a cellular/mobile...), and of establishing wireless communication (e.g. Bluetooth...) with other wireless devices in the vicinity...said communication network being capable of obtaining the geographical location of said communication devices...b) a wireless tag, attached to each of said roaming objects, being a wireless device...said tag being capable of communicating with one or more communication devices...c) a control center...for receiving data from said tag and...the location of the communication device...for determining/displaying or forwarding the geographical location of said tag."

The above summaries definitely describe different inventions.

7. (-)
8. If the above argument (6) is accepted, then Ekberg's application [2005/0058109] does not reject claim 14.
9. If the above argument (6) is accepted, then Tyson's application [20030054756] does not reject claim 16.
10. The three mentioned US Pat. Applications are in the same field as the present invention, i.e. wireless location, however deal with different scenarii, address different problems and disclose different methods. It's possible to imagine a remote linkage between any of these methods and the present one, however none is highly correlated, definitely not teaching Katz's invention. In particular, none discloses a method that links between local area and wide area communications in order to take advantage of both: simplicity of LAN/PAN radios and long range communications of WANs, for location purposes.
 - a. US Pat. App. Pub. No. 2004/0176032 to Kotola et al discloses a method to combine Bluetooth with RF-ID technologies in order to shorten Bluetooth connection time.
 - b. US Pat. App. Pub. No. 2002/0098852 to Goren et al deals with a TOA based location method for 802.11 packet radios.
 - c. US Pat. App. Pub. No. 2003/0210142 to Freathy et al discloses an integrated personal location apparatus, to be worn by offenders, that comprises a GPS receiver and a cellular modem, where location is derived from the GPS receiver and the cellular network.

Sincerely,
Daniel Katz.